

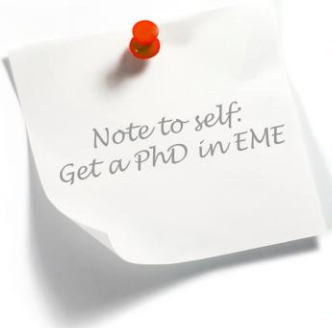


Good afternoon, everyone, and thanks for joining us for the second EME training session. Welcome to anyone who is joining us for the first time.

+

Today's Agenda

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■ Review

■ EME Database Customization

- Customization Demo


■ Synchronization: Tips and Tricks

■ Validation: Troubleshooting

- Validation Demo

■ Working with Stylesheets

- Stylesheet Demo



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Last week's training session provided a broad overview of what the EME is and how it works. Today we're going to delve into its features in more depth. We're going to focus on some of the EME's hidden features. Database customization, for example, isn't necessarily obvious to EME users, but if done correctly it can save you a lot of time in the long run. Today we're also going to walk through some common pitfalls of synchronization and validation. We get a lot of feedback from EME users, so we'll address some frequently asked questions.

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+ Review

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- EME creates FGDC and EPA compliant metadata
 - Includes all mandatory FGDC elements and many optional elements
 - Works with XML, shapefiles, and geodatabases (personal, file, ArcSDE)
 - EPA Technical Specification: implementation of FGDC CSDGM
- MS Access database populates EME defaults

In case you missed last week, I want to give you a very quick review. Last we introduced you to the EME, which is a simple geospatial metadata editor. You can run the EME as a standalone application or as an extension of ArcCatalog. You can use the EME with a variety of file formats, including XML records, shapefiles, and various types of geodatabase. Since the EME was designed for the EPA, it complies with the EPA metadata technical specification. The EPA standard is an implementation of the current FGDC standard, with a few added elements. That means that if a record complies with the EPA standard, then it also complies with the FGDC standard.

The information that populates the EME interface is stored in an Access database. By editing that database, you can customize which defaults appear in the EME. The Access database is like the EME's backstage area. It's somewhat hidden, but it controls a lot of what you see in the EME interface. Today we're going to explore some additional ways for you to customize the database.

+ Review

- EPA Synchronizer synchronizes metadata properties with dataset
- EME Validator tests for EPA compliancy
 - If record is EPA-compliant, it is also FGDC compliant
- Last week's Getting Started training:
<https://edg.epa.gov/EME/Resources.htm>



This is what you missed last week.

Last week we also introduced the EPA Synchronizer, which is a tool that reads properties of the dataset and inserts those properties into the metadata.

The EME validator tests your records for compliancy with EPA and FGDC metadata standards. If there are any problems with your metadata, the validator highlights those errors for you. Today we'll be talking about both synchronization and validation in greater detail.

If you missed last week's session, it is posted on the EME's website. You can access the presentation slides, a recording of the entire webinar, and a document that document contains the questions that attendees asked during last week's session, along with Jessica's answers to those questions.

+ Database Customization

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Changing the Database Location

- Default locations
 - C:\Program Files(x86)\Innovate! Inc\EPA Metadata Editor\template
 - C:\Users\Alexandra\AppData\Roaming\Innovate! Inc
- Allows EME database to be shared by multiple users on a network



Henry and Roger shared everything –
even their EME database



We'll begin today's new material with database customization. Last week we had a couple of people ask if the EME could be used on a network. By changing the location of the EME database, you can share the database with multiple users. You can choose to point to a database that is stored in a different location than the default location provided by the EME.

By default, the EME database is placed in the install directory on the user's machine, in a sub-directory called template (usually "C:\Program Files\Innovate! Inc\EPA Metadata Editor\template"). **Note: May be in Program Files(x86).** The EME also creates an editable copy of the EME database in each user's user directory (e.g., "C:\Users\jzichichi\AppData\Roaming\Innovate! Inc\EPA Metadata Editor").

+ Database Customization

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- Database location specified in **config.xml**
 - C:\Program Files(x86)\Innovate! Inc\EPA Metadata Editor\template\config.xml
 - Copy/paste database to location of your choice
 - Enter new location as <MdbFilepathname> in config.xml
 - Close/re-open ArcCatalog
 - Keep a copy of the original database as back-up



EME creates a copy of the database in each user's directory so that users with managed desktop machines are able to edit the database. In order to change the database location, you need to make a minor edit to an EME file called config.xml.

This file is located in the install directory on your machine (usually "C:\Program Files\Innovate! Inc\EPA Metadata Editor\template").

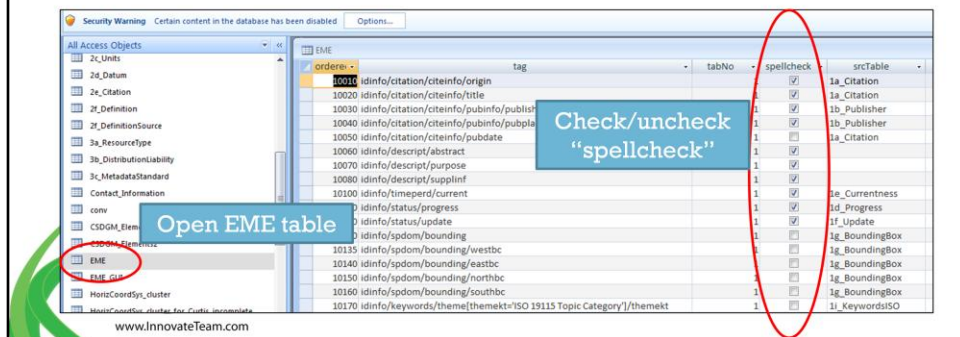
You can copy and paste the EME database to a new location and point to this new location in the EME's config.xml file. To specify the new location where the EME is stored, change the entry called "MdbFilepathname" to your new location. You must include the full path to the database, including the database name in the entry (e.g., C:\temp\metadata.mdb). After you have edited the config files, make sure to close and re-open ArcCatalog .

If you change your database location, we recommend that you leave a back-up of the original database in the original installation directory so that the EME has a backup database to access if the new location is unavailable.

+ Database Customization

■ Spell-check

- You decide which fields to spell-check
- Enable/disable spell-check for each field in database
- Open EME table in database to choose fields
- Check/uncheck boxes in “spellcheck” column



The second database customization is spell-check. You may want to enable spell-check for some of your metadata fields, but disable it for other fields. You can make those selections in the EME database.

When you open the EME database, you'll see that the database contains a lot of tables. Many of those tables correspond to the fields in the EME interface, sorted according to tab. If you scroll down through those Access Objects, you'll see the EME table. It's an important table to be aware of because it lets you make a couple of useful customizations.

The EME table contains a column for specifying which fields are searched when a user spell-checks a metadata record. This field can be enabled (checked) or disabled (unchecked) for each element in the EME user interface. Fields that have the spell-check field checked (enabled) will be included when the spell check feature is used from the EME user interface.

- Compound elements: elements that contain other elements
 - Example: Contact Information (includes Contact Person, Contact Address, etc.)
- You decide whether to update **entire** compound element, or only the elements that you have edited
- Check/uncheck boxes in “clusterUpdate” column

[illegible]

Compound element update behavior affects the way the EME updates compound elements in a metadata record. Compound elements are elements that contain other elements. For example, the contact information element is a compound element that is comprised of fields such as contact person, contact address, etc. The EME user interface is designed to be simple, so it does not expose the entire set of elements contained in the FGDC content standard. Because EME doesn't show everything, there are some cases where only portions of a compound element are available for a user to edit in the EME.

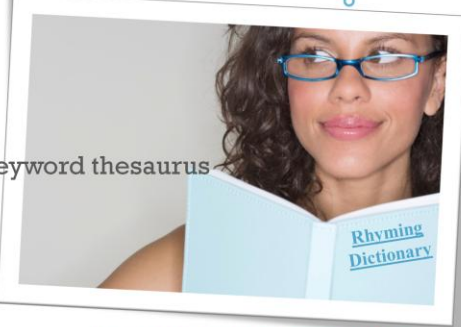
If you would like to replace the entire content of a compound element, open up the EME table (within the EME database) and select the clusterUpdate checkbox for that element. If you would like to only update individual elements within a compound element, deselect the clusterUpdate checkbox for that element. After making your changes, you will need to close and re-open ArcCatalog for the changes to take effect.


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+ Database Customization

- **Keywords**
 - Make it easier for people to search for and discover your metadata record
 - EME includes several lists of keywords (keyword thesauruses)
 - ISO (required)
 - EPA (recommended)
 - Place (recommended)
 - You can customize your own keyword thesaurus

Biota...iota...
high quota...





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Lenora takes creative license with her
customized metadata keywords

Moving on to the next customization, the EME allows you to customize which keywords appear in the EME and create your own personalized list of keywords. Keywords make it easier for people to search for and discover your metadata record. They provide a sneak peek of what type of dataset your metadata is describing. Keywords include terms like Environment, Emergency, Modeling, Water, etc.

If you open up the EME interface and look at Tab One, you'll see that the EME includes several keyword lists: ISO, EPA, and Place. You are only required to select ISO keywords, but we encourage you to select EPA and Place keywords as well. The more keywords you use, the better the snapshot of your dataset will be, and the easier it will be for folks to find your dataset. This is especially helpful if you contribute your metadata to a catalog like the Environmental Dataset Gateway.

+ Database Customization

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- Add keywords to the User keyword thesaurus
 - User keywords stored in “1l_KeywordsUser” database table
 - Create a name for your personal thesaurus, if desired
 - Add your keywords, then re-open EME
- Change the name of your keyword thesaurus
 - Open EME table in database
 - Modify this tag:
"idinfo/keywords/theme[themekt='User']/themekey"



The EME includes a keyword list, or thesaurus, called User. If you want to add your own keywords to this thesaurus, you will need to make a couple of edits to the EME database. User keywords are stored in a table called “1l_KeywordsUser.” You will need to modify the tag called "idinfo/keywords/theme[themekt='User']/themekt". Change the term 'User' to the desired term to be used for the keyword thesaurus (e.g., 'My Personal Thesaurus'). After this is done, you will need to close and re-open ArcCatalog for the changes to take effect.

+ Database Customization

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1.

| themekt | themekey | default |
|-----------|----------|-------------------------------------|
| Alexandra | Camel | <input type="checkbox"/> |
| Alexandra | Llama | <input type="checkbox"/> |
| Alexandra | Alpaca | <input type="checkbox"/> |
| Alexandra | Guanaco | <input type="checkbox"/> |
| Alexandra | Vicuna | <input checked="" type="checkbox"/> |

Choose a name for your thesaurus and enter keywords

2.

| tag | tabNo | spellcheck | srcTable | srcField |
|---|-------|-------------------------------------|------------------|----------|
| 10110 idinfo/status/progress | 1 | <input checked="" type="checkbox"/> | 1I_Progress | |
| 10130 idinfo/status/update | 1 | <input checked="" type="checkbox"/> | 1I_Update | |
| 10130 idinfo/spdom/bounding | 1 | <input type="checkbox"/> | 1g_BoundingBox | |
| 10135 idinfo/spdom/bounding/westbc | 1 | <input type="checkbox"/> | 1g_BoundingBox | |
| 10140 idinfo/spdom/bounding/eastbc | 1 | <input type="checkbox"/> | 1g_BoundingBox | |
| 10150 idinfo/spdom/bounding/northbc | 1 | <input type="checkbox"/> | 1g_BoundingBox | |
| 10160 idinfo/spdom/bounding/southbc | 1 | <input type="checkbox"/> | 1g_BoundingBox | |
| 10170 idinfo/keywords/theme[themekt=ISO 19115 Topic Category]/themekey | 1 | <input type="checkbox"/> | 1I_KeywordsISO | |
| 10180 idinfo/keywords/theme[themekt=ISO 19115 Topic Category]/themekey | 1 | <input type="checkbox"/> | 1I_KeywordsISO | |
| 10190 idinfo/keywords/theme[themekt=EPA GIS Keyword Thesaurus]/themekey | 1 | <input type="checkbox"/> | 1I_KeywordsEPA | |
| 10200 idinfo/keywords/theme[themekt=EPA GIS Keyword Thesaurus]/themekey | 1 | <input type="checkbox"/> | 1I_KeywordsEPA | |
| 10210 idinfo/keywords/place[placekt=None]/placekey | 1 | <input type="checkbox"/> | 1I_KeywordsPlace | |
| 10220 idinfo/keywords/place[placekt=None]/placekey | 1 | <input type="checkbox"/> | 1I_KeywordsPlace | |
| 10224 idinfo/keywords/theme[themekt=Alexandra]/themekey | 1 | <input type="checkbox"/> | 1I_KeywordsUser | |
| 10226 idinfo/keywords/theme[themekt=Alexandra]/themekey | 1 | <input type="checkbox"/> | 1I_KeywordsUser | |
| 10230 idinfo/account | 1 | <input checked="" type="checkbox"/> | 1K_Constraints | |

Update thesaurus name in EME table

Customized
keywords appear
in EME



So to customize your own keyword thesaurus, you'll want to follow two steps. Bear in mind that you will need to edit two different tables in the EME database:

First, choose a name for your thesaurus and enter your own keywords in the 1I_KeywordsUser table.

Second, update the thesaurus name in the EME table.

After that, your personalized thesaurus should appear in the EME interface.

+ Database Customization

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- Customizing the EME database for non-EPA organizations

- Change your Defaults
- Delete EPA-specific items from database
- Future versions of EME may include generic blank database



Non-EPA users, you
are not alone.



Before we move on to a demonstration of database customization, I want to address a question that came up last week. A couple of you asked how to use the EME if you aren't working with EPA data. As we discussed last week, you can change your default EME values in the database. I would encourage you to look through the database tables and edit the tables to meet your organization's needs. If you need help with any specifics, feel free to get in touch with us. Based on your feedback, we may include a generic blank database with future releases of the EME.

With that I'll turn it over to Catherine for a demo of the customizations we've been discussing.



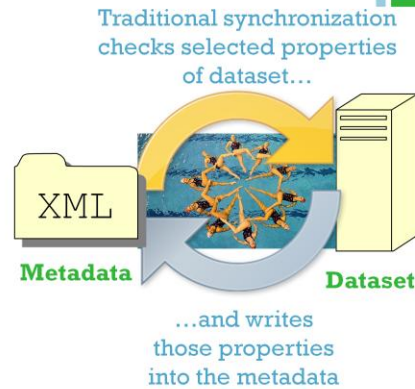
Demo: Customization



+ Synchronization: Tips and Tricks

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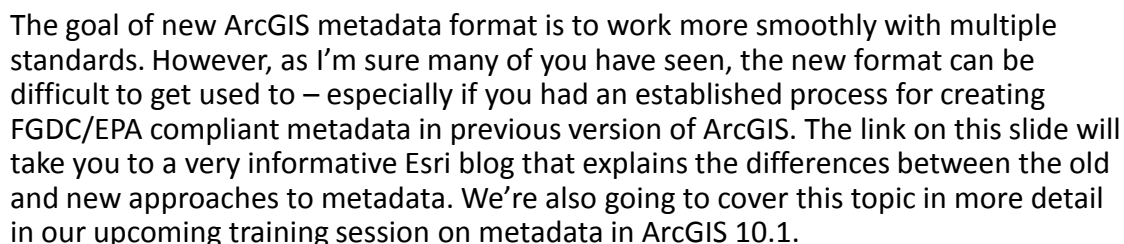
- Synchronization in ArcGIS 10
 - Two different uses of term “synchronization”
 - **Traditional Synchronization:** FGDC Metadata → Dataset
 - **New Synchronization:** FGDC Metadata → ArcGIS Metadata



Today's next topic is synchronization. As we discussed last week, the traditional meaning of synchronization is synchronizing metadata with the corresponding dataset. However, since the release of ArcGIS 10 we've seen a new type of synchronization that refers to "upgrading" FGDC metadata to the new ArcGIS metadata format.

First I want to talk a little bit more about the new ArcGIS format, and then we'll run through a couple of common problems with synchronization – and how to fix them.

- New metadata format introduced in 10.0
- Goal is to be compatible with multiple standards
- More info from Esri:
<http://blogs.esri.com/esri/arcgis/2011/01/06/a-new-approach-for-metadata-with-arcgis-10-part-2/>
- Introduces some unnecessary XML tags
- ArcCatalog prompts you to upgrade from to ArcGIS format




Whenever you open an FGDC metadata record in ArcCatalog, Arc will prompt you to upgrade the record to ArcGIS format. If you upgrade, an ArcCatalog tool will copy all of the record's FGDC elements to ArcGIS format. FGDC CSDGM Metadata is still editable through EME. *Upgrading* metadata will convert your FGDC CSDGM elements to ArcGIS elements, but is **not** required to allow you to edit FGDC metadata in EME.


+ Synchronization: Tips and Tricks

- **Problem:** My EME edits aren't showing up in ArcCatalog.
- **Cause:** Esri tags are throwing off synchronization
- **Solution:**
 - Upgrade to Service Pack 3 or 4
 - From ArcCatalog, export record as FGDC (removes Esri tags)
 - Use EME's Clear All Metadata button to delete everything
 - Re-import the FGDC version of your record

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Synchronize
THIS!



It's going to be okay.
We promise.

I'd like to walk through a couple of the problems that our users have experienced with synchronization. It's one of the more complicated aspects of the EME, but there are a few easy steps you can take to make you synchronization run smoothly.

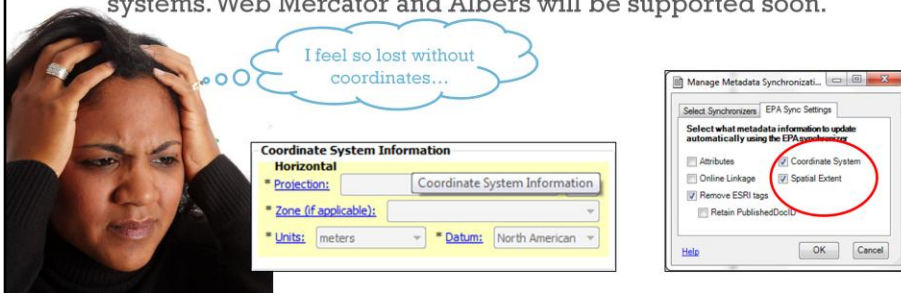
First problem: What can you do if the edits that you make in the EME are not showing up in ArcCatalog?

This issue is likely caused by those Esri tags, so your first step would be to select the "remove Esri tags" option in the EPA Synchronizer. Second, you should check which ArcGIS Service Pack you are using. If possible, upgrading to Service Pack 3 or higher will sort out some metadata glitches. If neither of those strategies fixes your synchronization problems, then you might need to export your record from ArcCatalog in FGDC format to remove any lingering Esri tags. Once you have exported, you can use the EME's Clear All button to delete everything, and then re-import the FGDC version of your record into the EME. This will remove any Esri tags once and for all. The bad news is that it would also remove any information that you entered through the ArcCatalog style editor.

+ Synchronization: Tips and Tricks

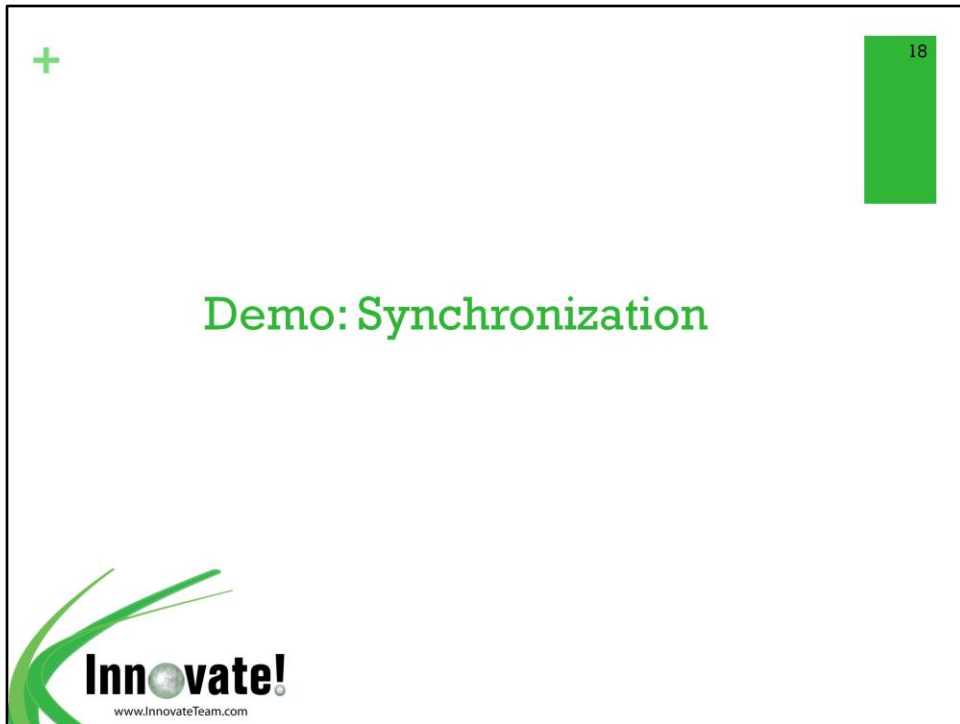
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- **Problem:** I can't edit my record's coordinate system in EME.
- **Cause:** EME interface only supports Geographic, State Plane, and UTM. Other options grayed out.
- **Solution:**
 - Use the EPA Synchronizer to update all other coordinate systems. Web Mercator and Albers will be supported soon.



Another common problem is that users have trouble editing their record's coordinate system information.

EME supports Geographic, State Plane, and UTM coordinate systems. When a metadata record contains content that describes one of the three supported systems, EME allows the user to edit the information. If the coordinate system described in the metadata record is not Geographic, State Plane, or UTM, then the EME controls are locked and the user is not able to edit the coordinate system content. Because this element is fairly complex, if a metadata record contains coordinate system information that EME doesn't recognize, it does not allow the user to edit that information. It is recommended that you use the EPA Synchronizer to update coordinate system information in your metadata records. Future releases of EME will likely support Albers and Web mercator.

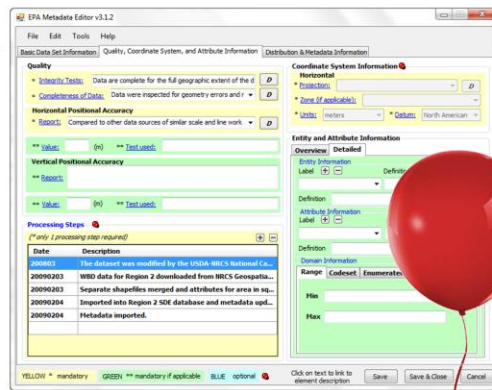


Catherine will walk through a few of these synchronization issues in greater detail in the next demonstration.

+ Validation: Troubleshooting

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- Validation Results
 - View in web browser
 - View in EME
- Errors vs. Warnings
 - Errors: Need to be corrected
 - Warnings: No action required



Depending on the settings you've configured for viewing the results, you will be presented with the results of validation within a web browser or the EME user interface (shown below). You may choose to view results using either or both of these options.

The 'View in browser window' option will open a web page and will list the errors and/or warnings found during validation (if any) along with information about the specific line(s) where errors and/or warnings were reported. It also displays the total number of errors and warnings found in the record. You may scroll through the record to view the element(s) that caused the error. Errors will be highlighted in red and warnings will be highlighted in yellow

The 'View in EME' option will highlight errors in the user interface using a red balloon. Red balloons are displayed at each location within the EME user interface where errors were found in the metadata record. Users can hover over the balloon to understand what the nature of the error was and then fix the error(s) accordingly.

+ Validation: Troubleshooting

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Le Ballon Rouge indicates a whimsical French metadata error

■ EPA Errors vs. FGDC Errors

- EPA Errors: Denoted with “EPA requires”
 - Specific to EPA Geospatial Metadata Technical Specification
 - Non-EPA users can ignore
- FGDC Errors: Do not include “EPA requires”



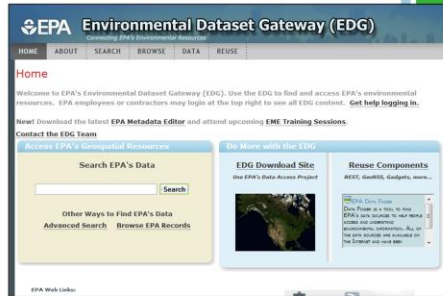
In cases where the error is described using the term "EPA requires", this error is specific to [EPA's Geospatial Metadata Technical Specification Version 1.0](#). In cases where the error is a standard FGDC error, the "EPA requires" term will not be shown. In cases where a required element is missing, the parent element will be highlighted to so that users can understand which section was missing the required information.

It's worth noting that non-EPA users can ignore any “EPA requires” errors.

+ Validation: Troubleshooting

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- Uploading to metadata catalogs
 - Environmental Dataset Gateway
 - Ok to upload with warnings
 - Can double-check with EDG validation
 - Geo.data.gov
 - Ok to upload with warnings



Some of you may need to upload your metadata records to catalogs like the Environmental Dataset Gateway or Geo.data.gov. Be aware that that it's okay to upload to these catalogs even if your metadata has warnings. Often our users see warnings from elements that aren't required to meet EPA and FGDC standards. If that's the case, you can delete those optional elements before uploading to a catalog. The EDG also offers its own validation service, which you can use to double-check your record's compliancy.



Demo: Validation

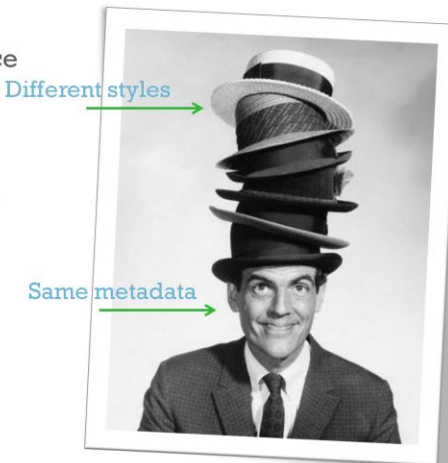


+ Working with Stylesheets

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■ Stylesheets

- Change the way metadata is displayed in ArcCatalog
- XLST file – changes appearance of XML doc
- “Metadata styles” are new in ArcGIS 10
- Designed to make it easier for Esri users to switch between standards



Today's final topic is working with stylesheets.

For anyone who is unfamiliar with stylesheets, they change the way metadata is displayed in ArcCatalog. A type of file called an XLST changes the appearance of your XML document.

The introduction of metadata styles was part of the ArcGIS 10 metadata revamp. They are designed to help users switch between metadata standards. The idea is that you can switch between standards without having to go back and edit your metadata. Instead, you can simply apply a new stylesheet.

+ Working with Stylesheets

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- Esri's new Description style
 - ArcCatalog default is "Description" style
 - Simple style designed for users not required to comply with metadata standards
 - More details from Esri:
<http://blogs.esri.com/esri/arcgis/2011/01/12/a-new-approach-for-metadata-with-arcgis-10-part-3/>



Lola's style does not comply
with standards.

The new style introduced in ArcGIS 10 is called the Description style. That's the style that you'll see by default when you open a metadata record in ArcCatalog. The Description style is designed to be simple. It caters to users who are not required to comply with metadata standards, who just need to create some minimal metadata. When you open a record in Description style, you'll only see a few basic metadata elements. Users working with FGDC metadata need to download and install the FGDC Style Patch.

+ Working with Stylesheets

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■ FGDC Style

- Allows you to export ArcGIS metadata to FGDC format
- Install FGDC Metadata Style Patch (free!)
 - <http://resources.arcgis.com/content/patches-and-service-packs?fa=viewPatch&PID=160&MetaID=1637>
- ArcCatalog→ Customize→ ArcCatalog Options→ Metadata Tab
- Select “FGDC CSDGM Metadata”



The FGDC style patch allows you to view all FGDC elements and export ArcGIS metadata to FGDC format. The FGDC Metadata Style Patch must be installed on your machine in order to select the FGDC Stylesheet in ArcGIS 10. The Patch is freely available at [Esri's website](http://resources.arcgis.com/content/patches-and-service-packs?fa=viewPatch&PID=160&MetaID=1637).

+ Working with Stylesheets

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■ EPA Metadata Stylesheet

■ You'll need...

- ArcCatalog 10 or later
- Administrative privileges

■ Download EPA Metadata Stylesheet and instructions

- <https://edg.epa.gov/EME/Resources.htm>



Download PDF for
detailed installation
instructions



The EPA also offers its own stylesheet. To download it, go to the EME Resources pages. We have also posted detailed installation instructions. Before you download it, be aware that you will need ArcCatalog 10 or later, along with administrative privileges on your computer.



Demo: Stylesheets



+ Getting Help

- EME Help
 - Extensive information available in EME Help
 - Help→Contents

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I mentioned EME help at the beginning of the presentation, but it's worth repeating that a lot of information is available to you in the Help documentation. We've sped through a lot of content today. All of what we've talked about is included in the Help documentation, which you can access from the EME interface.

+ Getting Help

- EME web resources
 - Fact sheets
 - Training presentations
 - Helpful links



<https://edg.epa.gov/EME/Resources.htm>



There are also some useful resources available on the EME website, including fact sheets, training presentations, and links to other metadata resources. Today's presentation will also be posted at this address.

+ Getting Help

■ Upcoming training sessions

- Metadata Best Practices – June 27, 2012
- Metadata in ArcGIS 10.1 – August 15, 2012
- EME v. 3.2 – September 19, 2012



We do have a few more training sessions coming up this summer. Please watch your inboxes for reminders about dates and times.

+ Getting Help

■ Contact Information

- Jessica Zichichi
■ jzichichi@innovateteam.com
- Catherine Harness
■ charness@innovateteam.com
- Alexandra Walrath
■ awalrath@innovateteam.com



We're standing by to answer
your questions.



If you'd like to get in touch, feel free to contact me, Catherine, or Jessica. We always appreciate questions and feedback from EME users.